

CDMA SYSTEM WITH FREQUENCY DOMAIN EQUALIZATION

Abstract

A code division multiple access (CDMA) system and methods for processing symbol blocks of a spread signal in both frequency and time domains are described. A transmitter (10) of the CDMA system spreads pilot symbols and data of the symbol blocks to derive a spread sequence. Thereafter, the spread sequence is extended with a predetermined number of chips and pulse shaped for transmission as the spread signal. A receiver (400) of the CDMA system receives the spread signal, removes the predetermined number of chips and then orthogonally transforms the spread signal to the frequency domain to derive a transformed signal. The transformed signal is equalized in the frequency domain to derive an equalized signal. The equalized signal is then inverse orthogonally transformed to an output in the time domain. The output is then despread to derive the symbol blocks.

FIG. 7 accompanies this abstract.